

A blurred, 3D rendering of the letters 'DFG' in white, set against a blue background with light rays.

European Research in Chemistry

PROMOTING INTERNATIONAL COLLABORATIONS

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The official DFG logo, consisting of the letters 'DFG' in a bold, blue, sans-serif font.

The European Research Area

OBJECTIVE

The objective of the European Research Area (ERA) was endorsed by the March 2000 European Council and is anchored in the 2007 Treaty of Lisbon.

Its aim is to achieve a “unified research area open to the world, based on the Internal Market, in which researchers, scientific knowledge and technology circulate freely and through which the Union and its Member States strengthen their scientific and technological bases, their competitiveness and their capacity to collectively address grand challenges”.

ERA Progress Report 2014
European Commission

The European Research Area

REALIZATION

- ❖ Variety of programmes by the European Commission
- ❖ European Research Council
- ❖ Eurohorcs, ESF, Science Europe, etc.
- ❖ Implementation by the national research performing and funding organisations
 - ❖ by participation in ERA-Nets, JPIs etc.
 - ❖ by developing sustainable instruments for cross boarder collaboration on the basis of national resources

Where do we stand?

Overview

1. Forms of promoting international collaboration from DFG's perspective
2. Decision-Making and Examples of funding joint collaboration
3. Joint Financing Models
4. Further instruments for the promotion of European collaboration



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Forms of promoting international collaboration from DFG's perspective

- ❖ Thematic or Open Initiatives / Calls
- ❖ Bilateral Agreements / Calls
 - ❖ National proposal with incorporation of international collaboration
 - ❖ Independent Proposals / Independent decision
 - ❖ Joint proposal / Separate decision
 - ❖ Joint proposal / Joint evaluation & decision
 - ❖ Lead Agency Procedure
- ❖ Multilateral Agreements / Calls
 - ❖ Open Initiative
 - ❖ IUPAC
- ❖ Initiation of Collaboration / International Research Marketing

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2. **Decision-Making and Examples of funding joint collaboration**
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Decision-Making & Examples of funding joint collaboration

Independent or joint proposal / separate evaluation & decision

- ❖ National proposal with incorporation of international collaboration
 - ❖ Independent Proposals / Independent decision:
 - ❖ With several partner organisations with no agreement or no common procedure
 - ❖ Joint proposal / Separate decision:
 - ❖ With organisations with no explicit common procedure
 - ❖ e.g. DFG/GACR
- Low success rates
- Long time scale from submission to funding

Decision-Making & Examples of funding joint collaboration

Joint proposal / joint evaluation & decision: NSF/DFG

- ❖ NSF/DFG International Collaboration in Chemistry (ICC) since 2005
 - ❖ New collaborative research proposals and renewal proposals between chemists from the U.S. and Germany
 - ❖ „Unsolicited Call for Proposals” since 2011
 - ❖ Bilateral joint proposals become routine business
 - ❖ Joint review and decision process by the NSF and the DFG (video conference)
 - ❖ Electronic submission via fastlane (NSF) and elan (DFG)
 - ❖ Average 7 grants per year on each side corresp. 20 – 25 % success rate
- **High success rates & short processing time with concrete deadlines**
- ❖ Former calls in chemistry between DFG & ANR:
 - ❖ Joint evaluation (2 + 2 reviews & joint review panel)
 - ❖ Success rate: 29% (2008), 16% (2009), 22 % (2011)

Decision-Making & Examples of funding joint collaboration

Lead-Agency Procedure: DACH

- ❖ Agreement between DFG and SNF (CH), FWF (A), FNR (LU) to
 - ❖ Facilitate cooperation between researchers of the respective countries
 - ❖ Enhance mobility of reserachers (MFR, MFCL)
 - ❖ Establish an efficient evaluation scheme based on the trust between the research councils involved „Lead Agency Procedure“
 - ❖ Lead Agency Procedure
 - ❖ One organisation takes over the entire evaluation process of a joint bilateral proposal according to specific criteria (budget, main reserach focus)
 - ❖ Partner organisation accepts the decision (after approval by own decision board)
 - ❖ Submission of proposals possible at any time
- **Works only between funding organisation with similar success rates and which apply similar reviewing criteria/processes**

Decision-Making & Examples of funding joint collaboration

Lead-Agency Procedure: DACH – Statistical Data

- ❖ **Individual Research Proposals:** 140 proposals p.a. in all fields of research
- ❖ **9 Research units** with participation from Switzerland and Austria
- ❖ **1 Research Training Group** with Austria
- ❖ 16 Swiss PI/groups participating in DFG's nationwide **priority programs**
- ❖ Funding share: 0,5 % of DFG's entire budget
- ❖ Success rate: 24 % (DFG's national success rate: approx. 34%)
- ❖ Deviating cases (2011-2014): 12 out of 450
- ❖ Data for natural sciences:
 - ❖ 71 proposals out of 138 (2009 - 2012)
 - ❖ Success rate: 51 %
 - ❖ Funding rate: 40 %

Decision-Making & Examples of funding joint collaboration

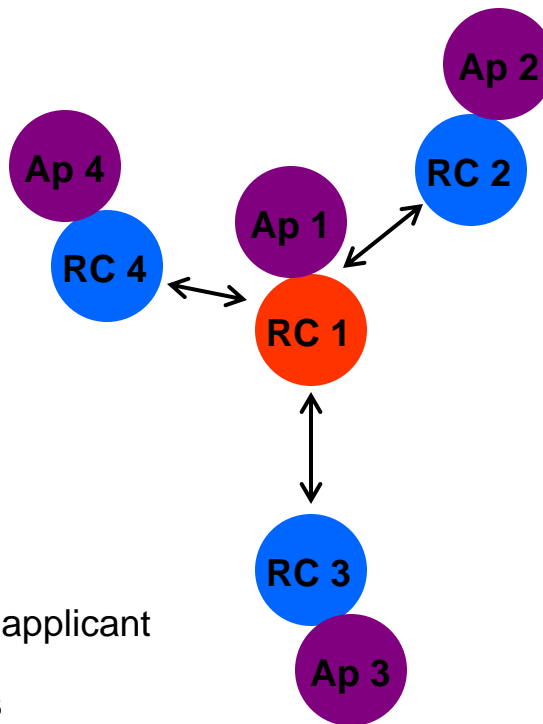
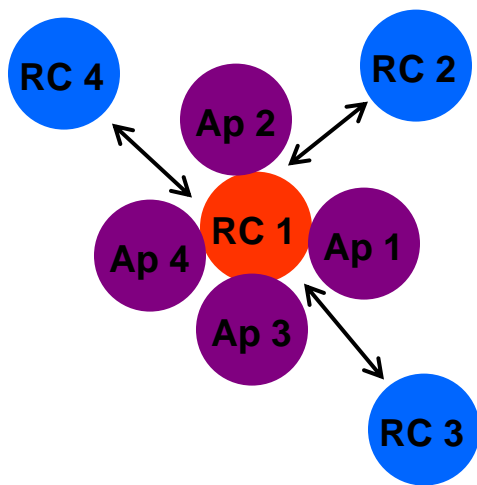
Lead-Agency Procedure: DFG/ANR

- ❖ Yearly call – one agency has lead changing yearly
- ❖ **Call 2013/14:**
 - ❖ Call for proposals in **Life Sciences, Physics, Chemistry and Engineering**
 - ❖ 250 proposals → 239 eligible
 - ❖ Lead Agency Principle: Evaluation by DFG
 - ❖ Discussion in the different Review Boards of DFG and recommendation
 - ❖ Approval/Disapproval by ANR in October 2014 - Overall funding rate: ~ 14 %
- ❖ **Data for Chemistry:**
 - ❖ 9 out of 37 proposals are recommended for funding
 - **Advantage:** Proposals can be streamlined with national proposals
- **Disadvantages:** possible differences in success rate and in evaluation processes, high numbers of proposals at a time

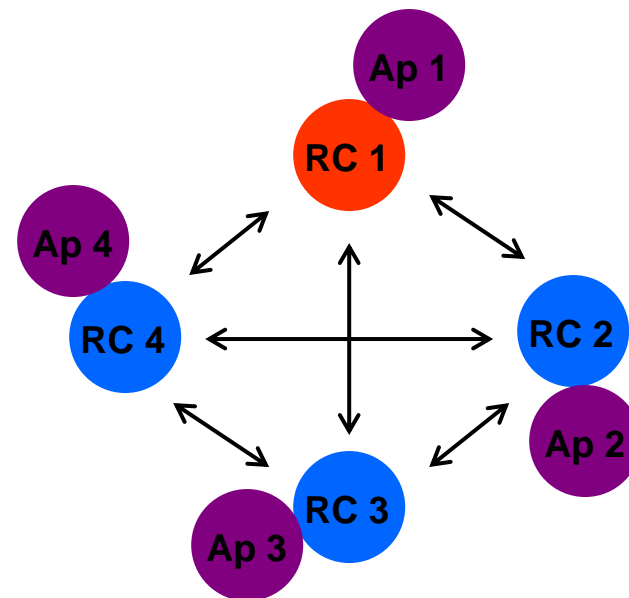
Decision-Making & Examples of funding joint collaboration

Multilateral Calls - Management

Centralised



Decentralised



RC Research council of PI or contact applicant

RC Research council of co-applicants

Ap Applicants

Reasonable for small
collaborations

Decision-Making & Examples of funding joint collaboration

Multilateral Calls: Open Initiative

- ❖ Thematically open call in chemistry launched once per year
- ❖ Between 3 and 7 partners from different nations
- ❖ Bilateral and trilateral transnational proposals – one joint proposal
- ❖ Joint proposal and evaluation forms
- ❖ Two-stage procedure to adapt to different national success rates
- ❖ Joint review and decision process (decentralized with central submission system)
- ❖ Ad-hoc panel meeting at the pre-proposal stage with decision on the spot
- ❖ Decentralized processing and decision process based on the involved research councils only – no final ad-hoc meeting at the full proposal stage
- ❖ Flexible participation of the national research councils based on a yearly Memorandum of Understanding



Decision-Making & Examples of funding joint collaboration

Multilateral Calls: Open Initiative

Year	Partners	Pre-proposals	Proposals	Grants	Grant Budget / €	Invitation rate / %	Funding rate / %
2008	7	97	41	10	3,173,798 €	42.3	24.4
2009	7	50	26	8	2,983,481 €	52.0	30.8
2010	6	71	26	7	2,405,681 €	36.6	26.9
2011	3	38	20	6	1,863,820 €	52.6	30.0
2012	3	26	11	4	1,975,936 €	42.3	36.4
2013	3	49	19	5	1,618,000 €	38.8	26.3

Next Call to be launched on

15 December 2014

if a sufficient number of Partner organisations decides to participate.

www.erachemistry.net & DFG Newsletter



EuCheMS General Assembly 2014
Tübingen, 24th of October 2014

DFG

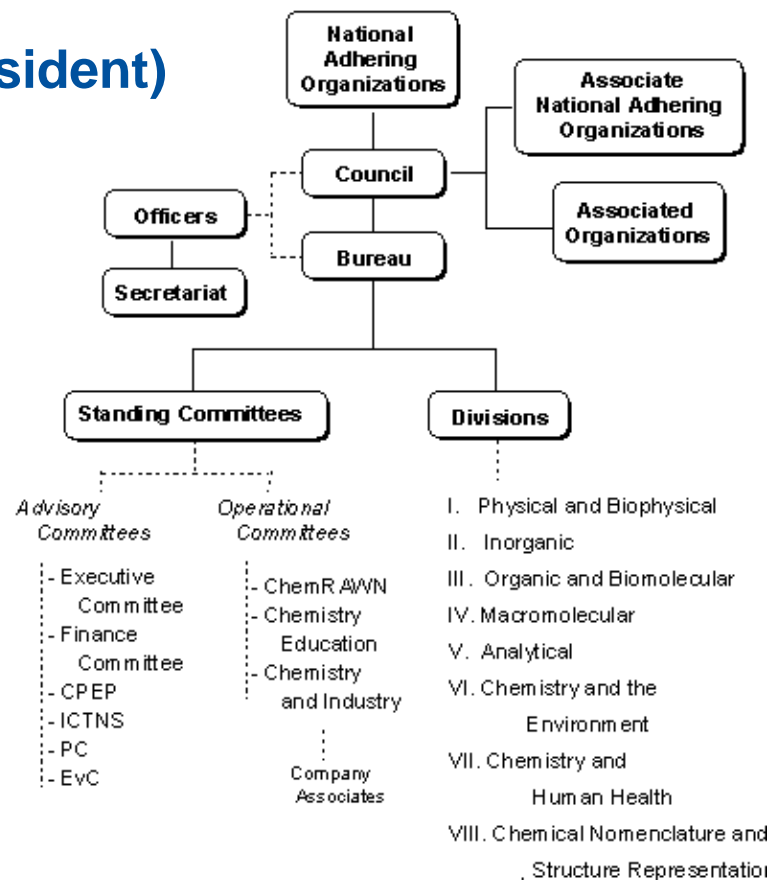
Decision-Making & Examples of funding joint collaboration

Multilateral Calls: IUPAC Thematic Call

Chair: Kazuyuki Tatsumi (Past President)

Secretary: Markus Behnke (DFG)

- ❖ Successful IUPAC task groups on research funding
- ❖ Committee established in 2009, annual meetings
- ❖ 16 national research funders
- ❖ National research funding philosophies, conditions, and guidelines
- ❖ Trends and priorities in chemical research
- ❖ Programs in chemical research that encourage international partnerships
- ❖ Resources that can be shared through international partnerships

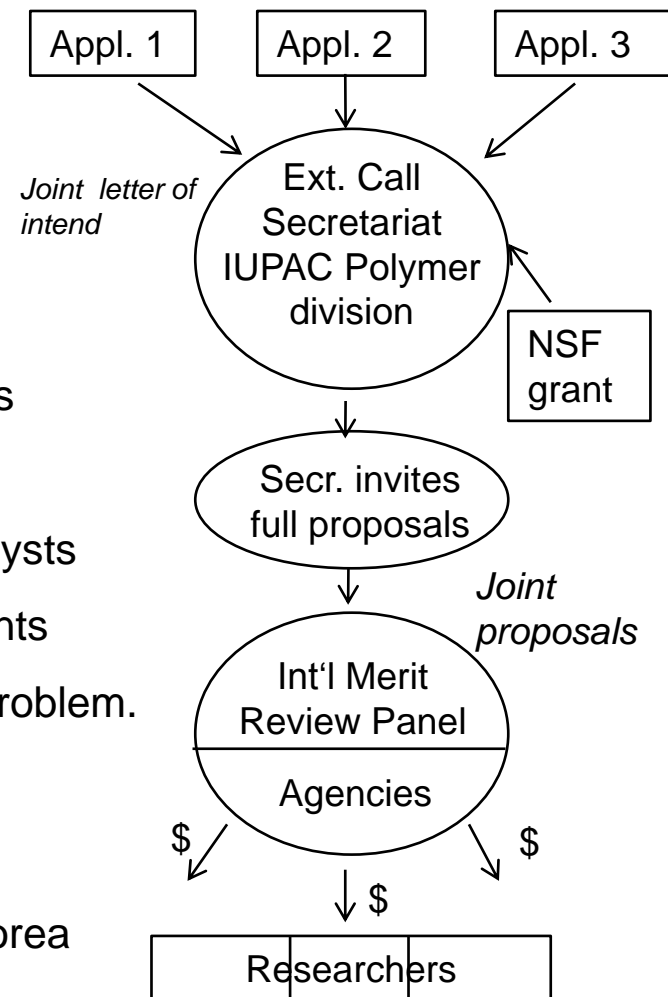


Decision-Making & Examples of funding joint collaboration

Multilateral Calls: IUPAC Thematic Call

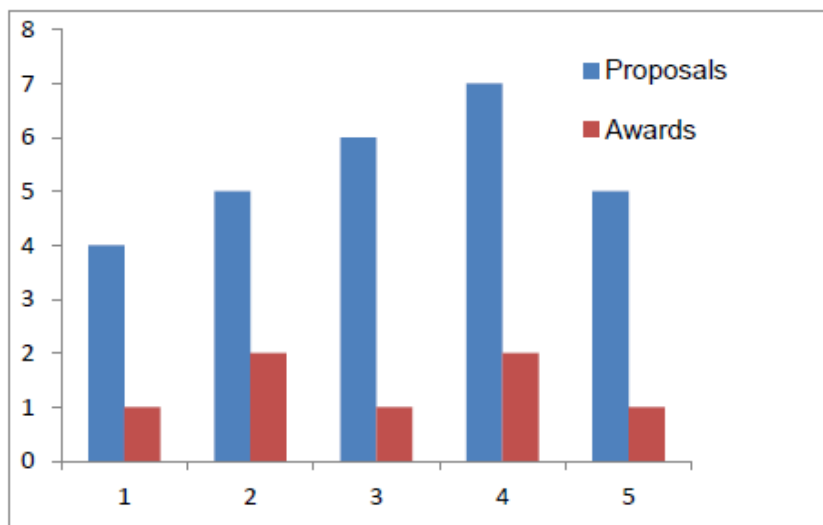
Novel Molecular and Supramolecular Theory and Synthesis Approaches for Sustainable Catalysis

- ❖ DFG, FAPESP, NSF, NSFC
- ❖ Proposals from at least 3 scientists from 3 different countries
- ❖ Experience from 1st call – procedure optimized
 - ❖ novel approaches to develop a new generation of catalysts
 - ❖ rare elements are replaced with earth abundant elements
 - ❖ and successfully address a significant environmental problem.
- ❖ 30 Letters of Intent, 27 proposals, 7 funded
- ❖ Mid-term
- ❖ 45th World Chemistry Congress August 9-14, 2015 South Korea

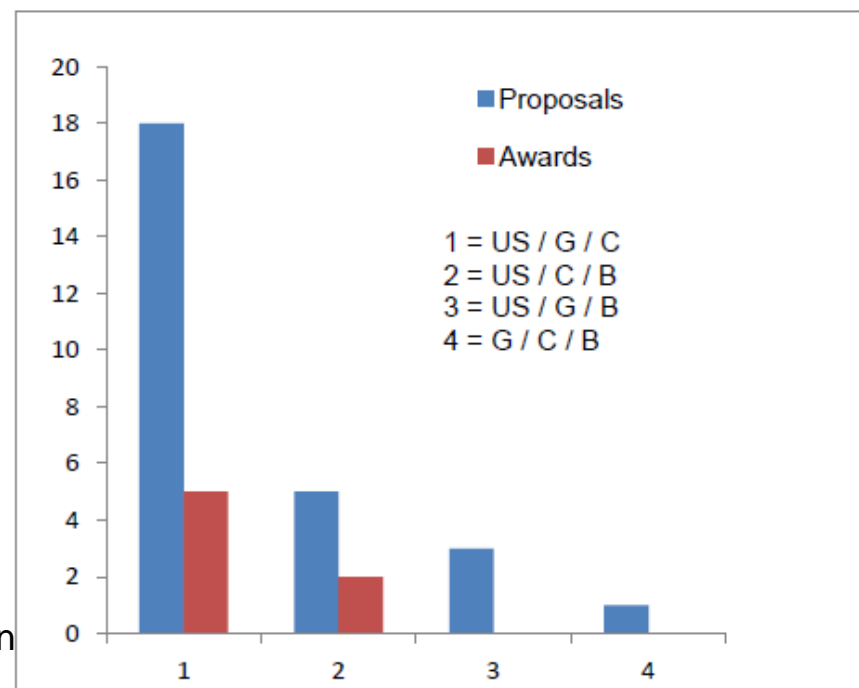


Decision-Making & Examples of funding joint collaboration

Multilateral Calls: IUPAC Thematic Call



- 1 Catalysis in fuel cells, electrocatalysis
- 2 Organic catalysis, photocatalysis, organic synthesis
- 3 Catalysis for polymerisation and bio polymer degradation
- 4 Base metal and first row transition metal catalysis
- 5 Nano, supramolecular structures in catalysis



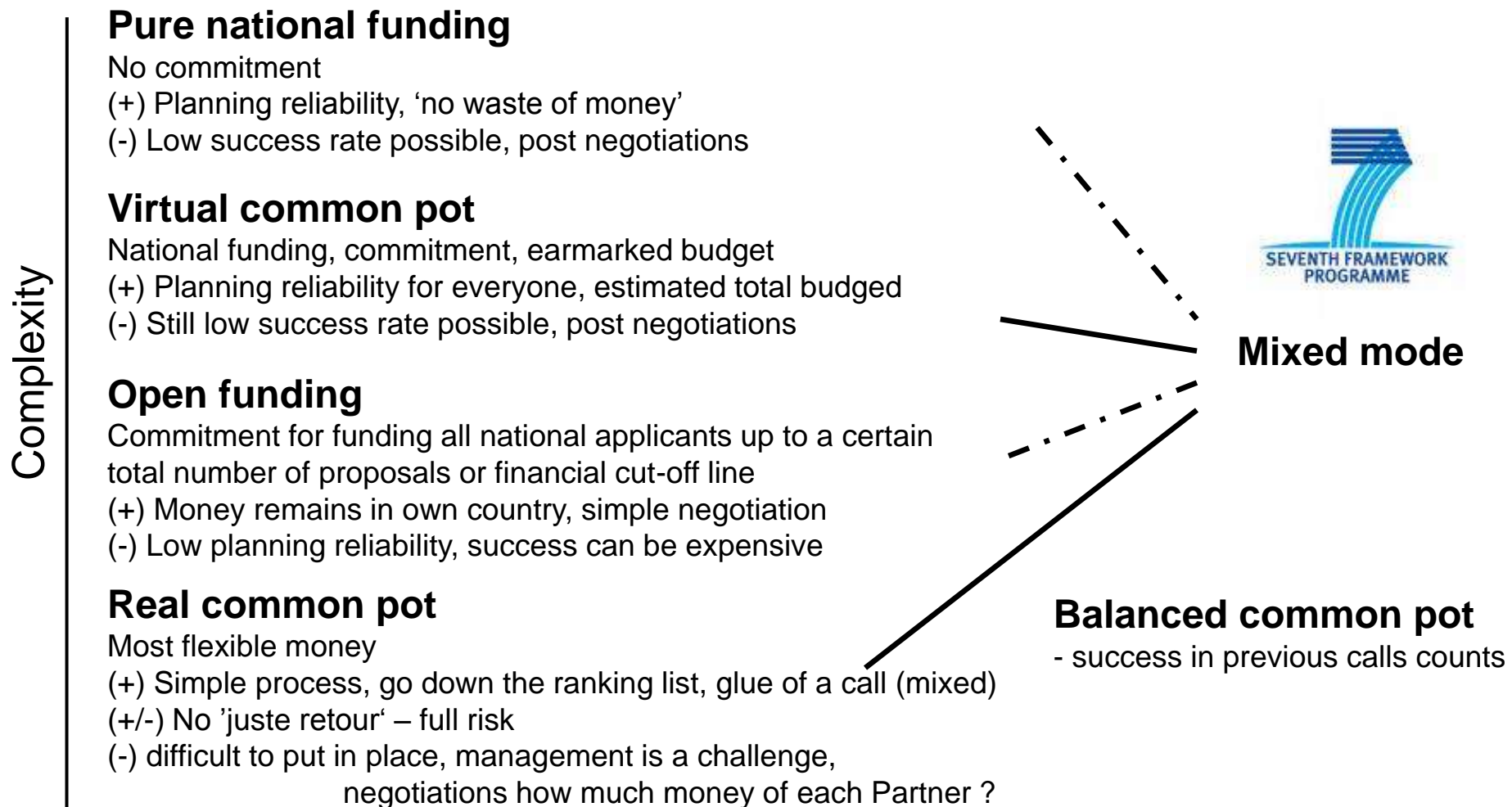
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Finances

Some definitions



Complexity

Pure national funding

- Open Initiative: DFG, FWF, and others
- Proposals within DACH
- IUPAC calls
- ANR/DFG calls
- DFG/NSF ICC and follow up
- Open Initiative: some partners

Virtual common pot

- Prior thematic ERA-Net/ERA-Chemistry calls

Open funding

- e.g. calls financed by EC - ERA-Net, ERA-Net+, COFUND

Real common pot

- Method tried in the past
- e.g. calls financed by EC: ERA-Net, ERA-Net+, COFUND

Funding of international collaboration meanwhile exclusively on the basis of pure national funding and virtual common pot respectively

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Further instruments for the promotion of European collaboration

Conferences – ERA-Chemistry

- ❖ Establishment of a small-size research conference scheme
- ❖ To dedicate to emerging fields of immediate scientific importance
- ❖ To promote a strong interaction between experienced invited and young scientists
- ❖ To be organised at the lowest possible cost
- ❖ To have a dedicated format: 3 days, 100 – 150 participants, invited lectures and selected talks, sufficient time for discussion and posters
- ❖ To enable and promote collaborative interactions

Past Flash Conferences:

2007 “Molecules at the Interface” Autrans, France & “Catalysis without Metals“ Évora, Portugal

2008 “Carbohydrates at the Interface of Biology, Medicine and Material Science”, Killarney, Ireland

“Modern Chemical Techniques for Light Harvesting”, Spain

2009 “Big task of water – Building and destroying molecules in water”, Chiemsee, Germany

2010 “Chemical Efficiency – Driving to the limits”, Roscoff, France

“Bioinspired Chemistry” – 24 to 27 October 2010, Santiago de Compostela, Spain

Further instruments for the promotion of European collaboration

Young Investigator Academies – Idea (ERA-Chemistry)

- ❖ Information about topics of immediate importance in Chemistry
 - ❖ Information about (joint) funding opportunities in Europe
- and
- ❖ Facilitation of training in specific fields of chemical research
 - ❖ Promotion of networking,
 - ❖ Promotion of mobility of young researchers in Europe
 - ❖ Training in the conception of a proposal
 - ❖ Improvement of the competitiveness of young researchers.

Further instruments for the promotion of European collaboration International Research Marketing

5th EuCheMS Chemistry Congress Istanbul, Turkey 2014

- ❖ RiG booth
- ❖ Presentation together with colleagues from DAAD and GDCh
- ❖ Funding Information and consultation
- ❖ Science Brunch



248th ACS National Meeting San Francisco August 10-14, 2014 • Chemistry & Global Stewardship



- ❖ Exposition
- ❖ Funding Information
- ❖ Meet the Scientist
- ❖ Federal Funders Townhall
- ❖ Press Conference CS3

Chemical Sciences and Society Symposia (CS3)

- ❖ **Sunlight to power the world (2009)**
- ❖ **A Sustainable Global Society:
How Can Materials Chemistry Help? (2010)**
- ❖ **Chemistry for Better Health (2011)**
- ❖ **Organic Electronics for a Better Tomorrow:
Innovation, Accessibility, Sustainability (2012)**
- ❖ **Efficient Utilization of Elements (2013)**

Coordinated by
ACS, CCS, CSJ, GDCh, RSC

Supported by
DFG, EPSRC, JSPS, NSF, NSFC

Sept. 2015 Chemistry and Water



CS3 San Francisco 2012

Funding opportunities
Multilateral call for proposals
IUPAC

IUPAC Division

Conclusion

- ❖ A variety of examples for best praxis in funding joint collaborations tested
- ❖ Flexible participation in networks and multilateral arrangements possible if there is an external flux of money (e.g. EC)
- ❖ Sustainable continuation of multilateral arrangements / calls difficult
- ❖ Strong tendency towards bilateral collaborations
- ❖ LEAD is very popular – strong need to test the appropriateness
- ❖ Strong tendency towards thematic initiatives (priorities / grand challenges)
- ❖ Strong decrease of transnational funding in Europe since 3 years
- ❖ Funding of joint collaboration on the basis of national resources exclusively according to the model of pure national funding



DFG

Thank you for your attention!

Weitere Informationen

- ▶ zur DFG: **<http://www.dfg.de>**
- ▶ zum Förderatlas: **<http://www.dfg.de/foerderatlas>**
- ▶ zu allen geförderten Projekten: **<http://www.dfg.de/gepris>**
- ▶ zu den deutschen Forschungseinrichtungen: **<http://research-explorer.de>**